UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA

March 19, 2019

Paul Stoick, Acting Lead Remedial Project Manager
US Department of the Navy
33000 Nixie Way, Bldg 50
San Diego, CA 92147

Dear Mr. Stoick:

Thank you for providing for review the Navy's November 2, 2018, draft final *Parcel G Removal Site Evaluation Work Plan*, Hunters Point Naval Shipyard, San Francisco, California ("Work Plan"). The U.S. Environmental Protection Agency (EPA) has reviewed the draft final Work Plan, and a second set of partial comments about some technical details are attached. These follow the first set, sent December 13, 2018. Final comments await discussion and resolution at a management level.

We appreciate that the revised version of the Work Plan indicates that the Navy made significant changes to adopt the recommendations of EPA and State of California regulators. Once we resolve several remaining issues, we expect the draft final Work Plan will protect public health and the environment while moving expeditiously to get the answers we all want as soon as possible. We will review closely revised pages of the Work Plan that address our comments as soon as we receive them.

We look forward to working with the Navy to finalize the Work Plan and other associated documents and begin the testing component of the radiological assessment effort as soon as possible. If you would like to discuss any of these comments, please contact me at 415-947-4187 or [HYPERLINK "mailto:lee.lily@epa.gov" \h] You can also Contact John Chesnutt, Manager, Pacific Islands and Federal Facilities Section, at 415-972-3005 or [HYPERLINK "mailto:chesnutt.john@epa.gov"].

Sincerely,

Lily N. Lee
Remedial Project Manager
Superfund Division

Attachment

cc: Nina Bacey, State of California Department of Toxic Substances Control
Shane Reese, State of California Department of Public Health
Tina Low, California Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health

USEPA Partial Review of the Draft Final *Parcel G Removal Site Evaluation Work Plan*, which now includes *Appendix B: Sampling and Analysis Plan and Appendix C: Soil Reference Background Area Work Plan*. Hunters Point Naval Shipyard, San Francisco, California, Draft dated November 2, 2018
USEPA Comments, Part 2, dated March 19, 2018

Note: The November 2, 2018, Draft adds the Navy's first responses to the regulatory agencies' comments on the earlier draft Sampling and Analysis Plan (SAP). It also adds Appendix C, which is the Soil Reference Background Area Work Plan. Below are a second set of USEPA's partial comments that address clarifications about technical details to help improve understanding to the reader, address typographical errors, give more consistency across the document, etc. More comments will follow that address other issues. Please provide for review redline versions of the relevant pages of the Work Plan and Responses to Comments (RTC's) to reflect revisions that respond to the items below. EPA has discussed many of these comments with the State of California Department of Toxic Substances Control (DTSC) and the California Department of Public Health (CDPH).

1. **Section 3.4, Radiological Investigation Design:** In EPA's March 26, 2018 comments (General Comment 20 on Section 4.3.3 of the Draft Work Plan), we recommended starting with a sample density of 25 sample per survey unit.

   EPA, DTSC, and CDPH recommend using 25 samples per survey unit initially for the following:
   - First 3 Trench Units, each RSY pad or equivalent area
   - First 3 Building Site Soil Survey Units
   - First 1 Survey Unit (statics and swipes) for each building material type (e.g. concrete, wood, drywall)

   After that, we should have enough more reliable data to update calculations to generate the appropriate sample density using the MARSSIM approach.

   Priorities for selecting the first trench units to sample should include likelihood of finding contamination, highest potential variability, representativeness, etc. EPA, CDPH, and DTSC recommend sampling in 25 locations at the following high priority survey units:
   a. First 3 Trench Units (TUs), each Radiological Screening Yard (RSY) pad or equivalent soil sorter volume
      i. TU 153 – This trench unit (TU) showed the following characteristics: low variability gamma static data that were inconsistent with gamma scan data; uninvestigated gamma scan exceedance(s); the manhole with highest Cs-137 in sediment located along this TU (which is in the vicinity of former building 364 and the Cs-137 peanut spill; which could lead to a higher probability of finding Cs-137 contamination); five rounds of excavation (which could have provided incentive to falsify to avoid future rounds of excavation); evidence of multiple populations on the Ac-228, Bi-214, K-40 Final Status Survey (FSS) Quintile-Quintile (Q-Q) plots; and Navy identification of falsification.

ii. TU 98 – This Trench Unit showed these characteristics: low variability gamma static results that were inconsistent with gamma scan data; six rounds of excavation; location along Cochrane Street (where the Navy's Radiological Affairs Support Office suspected historic Cs-137 contamination in storm drains and sanitary sewers); and evidence of multiple populations on the Ac-228, Bi-214, K-40 FSS Q-Q plots.

iii. TU 103 - This Trench Unit showed these characteristics: low variability gamma static data that were inconsistent with gamma scan data, three rounds of excavation, evidence of multiple populations on the Ac-228, Bi-214, K-40 FSS Q-Q plots, for Ac-228; and the standard deviation exceeds the mean.

b. First 3 Building Site Soil Survey Units (SUs)

i. Bldg 364 SU 23 - CDPH identified concerns in this survey unit because data showed many exceedances of the investigation level of three standard deviations (sigma) above the remedial goal, a one-year delay in sample analysis, and issues with the FSS systematic (FSS_SYS) data set for Bi-214 and K-40.

ii. Bldg 364 SU 28 – This SU is the location of former liquid waste transfer system excavation (which could mean a higher probability of finding contamination). Additional excavation was done by Tetra Tech EC Inc. This SU also shows evidence of multiple populations on the Ac-228, Bi-214, K-40 FSS Q-Q plots,

iii. Building 351A S000B – This SU has strong evidence of multiple populations on the Ac-228, Bi-214, K-40 FSS Q-Q plots. However, it appears that SU R may have been the one where excavation was done as it is surrounded by two other SUs. SU E also has strong evidence of multiple populations on the Ac-228, Bi-214, K-40 FSS Q-Q plots.

c. Building Survey Units: First redo one Survey Unit (statics and swipes) for each building material type. There is insufficient information in the G Work Plan to pick SUs, so we recommend that the Navy propose criteria to prioritize these or that the Navy select these randomly. [INSERT/REPLACE with input from CDPH]

2. **Appendix C, Soil Reference Background Area Work Plan:** Here is a more detailed list of what we need from the Navy prior to the collection of data at the off-site and on-site background locations or as part of the site investigation that are not fully documented in the Parcel G Work Plan for soils investigations only:

Gamma Scan and Static Surveys, including of the background reference areas:

1. Identify the Contractor that will be conducting field investigation/radiological surveys and data collection and submit contractor-specific standard operating procedures (SOPs) for field investigation, including SOPs for all radiological surveys.

2. Provide example calculations documenting how the minimum detectable counts (MDCs) listed in Parcel G Work Plan Table 3-7 (A Priori Scan MDCs) for gamma walk-over surveys using the RS-700 instrument were determined. For example, Section 3.5.2.2 (Gamma Scan Minimum Detectable Concentration) provides example calculations for the

Model 44-20 (3-inch by 3-inch) Sodium Iodide (NaI) detectors, but does not provide information about the RS-700 system. Note that CDPH provided a technical basis document for documenting how the RS-700 system was calibrated for the gamma scans conducted at Parcel A-1 using the MicroShield modeling program. Such information should be included in the Parcel G Work Plan, as follows:

a. Modeling used to correlate gamma fluence rates to detector performance/efficiency
b. Efficiency of detectors using calibration sources
c. Detection limits for identification of discrete sources versus soil contamination
d. Copy of nuclide library including the energy lines that will be used for quantitation of individual radionuclides

3. Identify the size of the detectors used for the RS-700 system, the mounting configuration, and information demonstrating how 100% of the land areas scanned will be covered by the RS-700 gamma scan instruments based on the size and mounting configuration.

4. Specify that global positioning system (GPS)/positional data collection will occur during the RS-700 system scanning surveys.

5. Provide a listing of the static measurement MDCs for the Ludlum 2221 with Model 44-20 NaI detectors and the RS-700 system. Example scanning MDCs were provided in Table 3-7 (A Priori Scan MDCs) but MDCs for statics were not provided.

6. Include a listing of instruments, calibration and MDCs (if different) for gamma scanning of core samples since this may present a different geometry than scanning excavated soils and different detectors may be used.

Investigation parameters

7. Revise the Work Plan to include the listing of all radionuclides of concern (ROCs) for some survey units/trench units and buildings based on the Historical Radiological Assessment, Volume II (HRA) per previous comment submittals.

Additional Comments on the Responses to CDPH comments:

Response to CDPH Comment 45 on Section 3.6.5.1, Surface Soil Sample Collection, Page 3-21. The response indicates, "The text was updated to state that soil samples will be retained, for possible CDPH-EMB confirmatory analysis, until the contractor for Parcel G soil work demobilizes from the site." However, CDPH-EMB selects confirmatory samples for analysis after it has received a Draft Final Status Survey to review. This may not occur until after the contractor has demobilized from the site. Although split samples will be collected by Regulatory Agency observers for analysis by EPA and CDPH, CDPH also may choose to analyze confirmatory samples. To ensure that analysis of confirmatory samples can occur, CDPH-EMB believes all soil samples should be archived and maintained by the Navy until the Final Status Survey for Parcel G is finalized. Please retain all soil samples for potential CDPH-EMB confirmatory analysis and provide any relevant Navy policy regarding sample retention.

Response to CDPH Comment 54 (e): The Navy response, "See response to USEPA General Comment 15c," does not address the issue regarding buffer zones. Both EPA and CDPH-EMB would like to see a more thorough response to this CDPH comment. Please require a Class II MARSSIM buffer survey around areas where Class I MARSSIM surveys are performed.